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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,506	01/02/2004	Chun-Kong Chan	MR2349-978	8696
4586	7590	06/24/2005	EXAMINER	
ROSENBERG, KLEIN & LEE 3458 ELLICOTT CENTER DRIVE-SUITE 101 ELLICOTT CITY, MD 21043			VO, TUYET THI	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/749,506

Applicant(s)

CHAN ET AL.

Examiner

Tuyet Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 April 2005.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-16 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al. (US Pat. 6,717,372) in view of McKnight (US Pat. 5,036,255).

Lin discloses a multi-lamp drive device connected with a power source for driving at least a cold cathode fluorescent lamp (Figs 3-6), comprising:

a drive circuit (10, 30) comprising a pulse width modulation controller (30) for outputting a modulation signal and a converter (col. 2, lines 52-55) connected with said pulse width modulation controller and used for outputting an excitation power source based on said power source;

a transformer comprising a magnetic core, a primary coil and a secondary coil, said primary coil being electrically coupled with said excitation power source ( $V_{in}$ ), one end of said secondary coil electrically coupled with one end of at least a ballast component (C, the ballast component is a capacitor that is inherently provided with a high/low impedance in a desired manner), the other end of said ballast component (Fig. 4) being connected to a first end of at least a balanced inductor ( $W1$ ), wherein the balanced inductor is a winding coil of a balanced transformer (50); and

at least a lamp ( $Lp1$ ) whose one end is connected to a second end of said balanced inductor ( $W1$ ) and whose other end is connected to said drive circuit (10, 30). The alternating inventions have been disclosed in Figure 3 and Figure 5, such as the lamp connected between the

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capacitor and the balanced inductor while the other end of the inductor connected to the drive circuit or the other second end of the secondary coil connected to a ground.

However, Lin does not disclose the transformer having a core that has a central column between a first and a second column.

McKnight discloses an apparatus for balancing discharge lamps by comprising a driving circuit (14, 30) and a transformer having a primary coil, a secondary coil and a core, wherein the core having a central column between a first side and second side columns of the core respectively. A primary coil and a secondary coil wound around the first side column and the second side column respectively.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the transformer having a core with a central column as taught by McKnight into the Lin multiple lighting system in order to improve the lamp performance by reducing/spreading out a magnetic flux as well as undesired temperature generated from two side columns of the transformer.

### ***Citation of pertinent prior art***

3. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Lee (US Pub. 2005/0023998) discloses circuit structure for driving a plurality of cold cathode fluorescent lamps.

Chen (US Pat. 4,187,450) discloses a high frequency ballast transformer.

Sturgeon (US Pat. 4,858,093) discloses integrated magnetic power converter.

Boom (US Pat. 4,864,478) discloses integrated magnetic power converter.

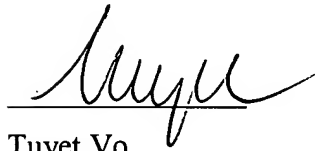
### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyet Vo whose telephone number is 571 272 1830. The examiner can normally be reached on Mon-Fri.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571 272 1834. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9306 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

A handwritten signature in black ink, appearing to read 'Tuyet Vo', is written over a horizontal line.

Tuyet Vo

Primary Examiner

June 22, 2005